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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/541,672	08/16/2006	Hugues Lefevre	339553US99PCT	4087

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OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, L.L.P.
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ALEXANDRIA, VA 22314

EXAMINER

GREEN, TELLY D

ART UNIT	PAPER NUMBER
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2822

NOTIFICATION DATE	DELIVERY MODE
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09/09/2009

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/541,672	Applicant(s) LEFEVRE, HUGUES	
	Examiner TELLY D. GREEN	Art Unit 2822	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 May 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 22-42 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 22-42 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1 The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim **22-27, 31-38** are rejected under 35 U.S.C. 103(a) as being unpatentable over Roberts et al. (Roberts) (**US 2002/0149312 A1**) in view of Varaprasad et al. (Varaprasad) (**US Publication 2003/0087107 A1**) in view of Brussog (**US Patent 6,270,236 B1**).

In regards to claim **22**, Roberts discloses (**Figs. 3A-5, 15**) two glass sheets (**items 14, 16, 32**); light emitting diodes (**items 12, 52**) inserted between the two glass sheets (**items 14, 16, 32**) (**paragraphs 162, 188**), a connecting circuit being formed from a least one conductive layer (**items 34 and 36, 54 and 56**) deposited on one face of the glass sheets (**Figs. 4 and 5**) or of the thermoplastic interlayers, the conductive layer (**items 34 and 36, 54 and 56**) being divided in at least 2 distinct areas (**Figs. 4 and 5**); but does not specifically disclose and one or more thermoplastic interlayers; each area being bound to an electrode.

Varaprasad discloses one or more thermoplastic interlayers (**paragraph 124, 149, 158**).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the structure of Roberts with the thermoplastic layer of Varaprasad for the purpose of an index of refraction matching material.

Brussog discloses LED's (**item 6**) on a transparent carrier panel (**item 2**) made of glass or plastic; a conductive layer (**item 3**) being divided in at least 2 distinct areas (**grooves, item 4**) (**col. 2, lines 1-67, col. 3, lines 1-30**), each area being bound to an electrode (**item 17**).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings above for the purpose of reducing the manufacturing and design complexity of the lighting units having LED's, in particular with regard to different shapes and dimensions of lighting units.

In regards to claims 23 and 33, Roberts does not specifically disclose that the conductive layer has a thickness in the range of between 0.02 and 0.5/0.2 and 0.4 micrometers.

Varaprasad discloses (**paragraphs 152, 167, Fig. 1**) that the conductive layer (**item 4**) has a thickness in the range of between 0.02 and 0.5/0.2 and 0.4 micrometers.

However, the applicant has not established the critical nature of the conductive layer having a thickness in the range of between 0.02 and 0.5 micro/between 0.2 and 0.4 micro. "The law is replete with cases in which the difference between the claimed invention and the prior art is some range or other variable within the claims. In such a situation, the applicant must show that the particular range is critical, generally by showing that the claimed range achieves unexpected results relative to the prior art range." In re Woodruff, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir.1990). To establish unexpected results over a claimed range, applicants should compare a sufficient number of tests inside and outside the claimed range to show criticality of the claimed range. In re Hill, 284 F.2d 955, 128 USPQ 197(CCPA 1960). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have various ranges for the purpose of reducing the size of the device.

In regards to claims 24, 34 and 35, Roberts does not specifically disclose that the conductive layer has a resistance in the range of between 2 and 80, 10 and 80, or 12 and 20 Omega/sq.

Varaprasad discloses **(paragraphs 153-155)** that the conductive layer has a resistance in the range of between 2 and 80 Omega/sq.

However, the applicant has not established the critical nature of the conductive layer having a resistance in the range of between 2 and 80, 10 and 80, or 12 and 20 Omega/sq. “The law is replete with cases in which the difference between the claimed invention and the prior art is some range or other variable within the claims. In such a situation, the applicant must show that the particular range is critical, generally by showing that the claimed range achieves unexpected results relative to the prior art range.” *In re Woodruff*, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir.1990). To establish unexpected results over a claimed range, applicants should compare a sufficient number of tests inside and outside the claimed range to show criticality of the claimed range. *In re Hill*, 284 F.2d 955, 128 USPQ 197(CCPA 1960). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have various ranges for the purpose of operating at low voltages and increasing the lifespan of the device.

In regards to claim 25, Roberts does not specifically disclose that the conductive layer is applied on the transparent substrate and zones have been insulated from the rest of the layer by narrow insulating bands.

Varaprasad discloses **(paragraphs 173-175, Fig. 1)** that the conductive layer is applied on the transparent substrate and zones have been insulated from the rest of the layer by narrow insulating bands.

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings above for the purpose of preventing the areas from contacting each other locally and avoid short-circuiting **(paragraph 175)**.

In regards to claims 26, 36 and 37, Roberts does not specifically that a) the insulating bands have a width in the range of between 0.01 and 3/0.1 and 1.5/0.1 and 0.8 mm.

Varaprasad discloses **(paragraphs 173-175)** that a) the insulating bands have a width in the range of between 0.01 and 3 mm.

However, the applicant has not established the critical nature of a) the insulating bands have a width in the range of between 0.01 and 3/0.1 and 1.5/0.1 and 0.8 mm. “The law is replete with cases in which the difference between the claimed invention and the prior art is some range or other variable within the claims. In such a situation, the applicant must show that the particular range is critical, generally by showing that the claimed range achieves unexpected results relative to the prior art range.” In re Woodruff, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir.1990). To establish unexpected results over a claimed range, applicants should compare a sufficient number of tests inside and outside the claimed range to show criticality of the claimed range. In re Hill, 284 F.2d 955, 128 USPQ 197(CCPA 1960). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have various ranges for the purpose of preventing the areas from contacting each other locally and avoid short-circuiting **(paragraph 175)**.

In regards to claims 27 and 38, Roberts as modified by Varaprasad discloses electronic components, but does not specifically disclose the LEDs and any associated casing have a thickness less than or equal to 0.1/1.2/3mm.

Brussog discloses reducing the manufacturing and design complexity of the lighting units having LED's, in particular with regard to different shapes and dimensions of lighting units/electrical components (**col. 1, lines 49-53**).

However, the applicant has not established the critical nature of the LEDs and any associated casing having a thickness less than or equal to 3mm or less than or equal to 0.1 and 1.2mm. "The law is replete with cases in which the difference between the claimed invention and the prior art is some range or other variable within the claims. In such a situation, the applicant must show that the particular range is critical, generally by showing that the claimed range achieves unexpected results relative to the prior art range." In re Woodruff, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir.1990). To establish unexpected results over a claimed range, applicants should compare a sufficient number of tests inside and outside the claimed range to show criticality of the claimed range. In re Hill, 284 F.2d 955, 128 USPQ 197(CCPA 1960). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have various ranges for the purpose of having a sufficient thickness that would allow the use of more electronic devices/components (LEDs).

In regards to claim 31, Roberts does not specifically disclose that a switch actuating the power supply of the electronic component is formed by a zone of the conducting layer insulated from the rest of the conductive layer by narrow insulating bands.

Varaprasad discloses (**paragraphs 173-175, 189, Fig. 1**) that a switch actuating the power supply of the electronic component is formed by a zone of the conducting layer insulated from the rest of the conductive layer by narrow insulating bands.

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings above for the purpose of preventing the areas from contacting each other locally and avoid short-circuiting (**paragraph 175**).

In regards to claim 32, Roberts discloses (**Figs. 3A-5, 15**) light emitting diodes (**items 12, 52**) inserted between the two glass sheets (**items 14, 16, 32**) (**paragraphs 162, 188**), but does not specifically disclose the LEDs are inserted in at least on of said one or more thermoplastic interlayers during the production of the laminated glazing.

Varaprasad discloses (**paragraphs 124, 149, 158, 162, 188, Fig. 1**) in which diodes are inserted in at least on of said one or more thermoplastic interlayers during the production of the laminated glazing.

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to insert the LEDs of Roberts in at least one or more thermoplastic interlayers of Varaprasad for the purpose handling the heat produced by the LEDs during operation.

Claims **28-30 and 39-42** are rejected under 35 U.S.C. 103(a) as being unpatentable over Roberts et al. (Roberts) (**US 2002/0149312 A1**) in view of Varaprasad et al. (Varaprasad) (**US Publication 2003/0087107 A1**), in view of Brussog (**US Patent 6,270,236 B1**), as applied to claims 22-27, 31 and 32 above, and further in view of Schaffer (**US Patent 6,283,613 B1**).

In regards to claim 28, Roberts's invention as modified by Varaprasad and Brussog discloses all of the claim limitations above except for a casing.

Schaffer discloses an array of LED's in a casing (**col. 4, lines 51-55, claim 1**).

Therefore it would have been obvious to one of ordinary skill at the time of the invention to combine the teachings above for the purpose of luminosity, protection, space, cost and a thermal connection for heat conduction away from the LED and semiconductor.

In regards to claims 29, 39 and 40, Roberts's invention as modified by Varaprasad and Brussog and Schaffer discloses all of the claim limitations above except that the casing is dimensioned such that the length and/or a width are at least 10/20/40-times larger than its thickness.

However, the applicant has not established the critical nature of the length and/or a width being at least 10/20/40-times larger than its thickness (open ended range). "The law is replete with cases in which the difference between the claimed invention and the prior art is some range or other variable within the claims. In such a situation, the applicant must show that the particular range is critical, generally by showing that the claimed range achieves unexpected results relative to the prior art range." *In re Woodruff*, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir.1990). To establish unexpected results over a claimed range, applicants should compare a sufficient number of tests inside and outside the claimed range to show criticality of the claimed range. *In re Hill*, 284 F.2d 955, 128 USPQ 197 (CCPA 1960). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have various ranges for the purpose providing a case with the necessary length/width to cover or protect the electronic components/chips.

In regards to claims 30, 41 and 42, Roberts's invention as modified by Varaprasad and Brussog and Schaffer discloses all of the claim limitations above, but does not specifically disclose that the casing is dimensioned such that the length and/or a width in the range between 5 and 100mm/15 and 75mm/25 and 50mm.

However, the applicant has not established the critical nature of the casing having dimensions such that the length and/or a width are in a range between 5 and 100mm/15 and 75mm/25 and 50mm. "The law is replete with cases in which the difference between the claimed invention and the prior art is some range or other variable within the claims. In such a situation, the applicant must show that the particular range is critical, generally by showing that the claimed range achieves unexpected results relative to the prior art range." *In re Woodruff*, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir.1990). To establish unexpected results over a claimed range, applicants should compare a sufficient number of tests inside and outside the claimed range to show criticality of the claimed range. *In re Hill*, 284 F.2d 955, 128 USPQ 197(CCPA 1960). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have various ranges for the purpose providing a case with the necessary length/width to cover or protect the electronic components/chips.

Response to Arguments

Applicant's arguments with respect to claims 22-42 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Khan et al. (US 6,377,321 B1)

Any inquiry concerning this communication or earlier communications from the examiner should be directed to TELLY D. GREEN whose telephone number is (571)270-3204. The examiner can normally be reached on Monday thru Friday 7:30 AM - 5:00 PM EST..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Zandra Smith can be reached on 571-272-2429. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Zandra V. Smith/
Supervisory Patent Examiner, Art Unit 2822

/Telly D Green/
Examiner, Art Unit 2822
September 1, 2009